

# Foodborne Poisoning (Scombroid fish poisoning) Investigation Overview

The following guidelines provide a brief overview of the steps of a Scombroid fish poisoning investigation. Illness occurs after eating improperly refrigerated or preserved fish containing high levels of histamine, and often resembles a moderate to severe allergic reaction. Fish typically associated with scombroid have naturally high levels of histidine in the flesh and include tuna, mackerel, mahi mahi (dolphin fish), sardine, anchovy, herring, bluefish, amberjack, and marlin. Histidine is converted to histamine by bacterial overgrowth in fish that has been improperly stored after capture. Histamine and other scombrottoxins are resistant to cooking, smoking, canning, or freezing. People who have Scombroid may experience flushing of the face and upper body (resembling sunburn), severe headache, palpitations, itching, blurred vision, abdominal cramps, and diarrhea.

For additional support, consult the NC Communicable Disease Branch at (919) 733-3419.

## Basic Steps of a Scombroid fish poisoning Investigation

1. Collect clinical information	<ul style="list-style-type: none"> <li>• Resembles an acute allergic reaction</li> <li>• Symptoms can include flushing of the face and upper body (resembling sunburn), severe headache, palpitations, itching, blurred vision, abdominal cramps, and diarrhea</li> </ul>
2. Incubation period	<ul style="list-style-type: none"> <li>• Symptoms usually develop within a few minutes to an hour after eating contaminated fish</li> </ul>
3. Manage the case	<ul style="list-style-type: none"> <li>• Determine if requirements for case definition are met</li> <li>• Untreated, symptoms usually resolve within 12 hours but may last up to 48 hours</li> <li>• Rarely, there may be respiratory compromise, malignant arrhythmias, and hypotension requiring hospitalization</li> <li>• No long-term sequelae</li> <li>• Interview the case and complete the Part 2 Form/risk history and clinical packages in NCEDSS</li> </ul>
4. Identify source of exposure	<ul style="list-style-type: none"> <li>• Review clinical records for potential source(s) of exposure</li> <li>• Interview patient to obtain additional information about fish consumed in the 24 hours prior to symptom onset</li> </ul>
5. Review Laboratory Information	<ul style="list-style-type: none"> <li>• There are no human clinical laboratory tests for Scombroid toxin</li> <li>• If there are leftover fish that may be tested, contact environmental health specialist to arrange for embargo of the product and collection for testing</li> <li>• Consult with the State Epidemiologist On Call if there is a request to have fish samples tested</li> </ul>
6. Implement Control Measures to Prevent Disease and Additional exposures	<ul style="list-style-type: none"> <li>• If fish are identified, the location of purchase or consumption should be contacted by environmental health specialist immediately to alert them of the potential contamination of fish with Scombroid toxin.</li> <li>• Environmental health specialist should consult with the CD Branch to discuss embargo of specific fish in a particular location to prevent others from being exposed.             <ul style="list-style-type: none"> <li>• Large predatory reef fish are the typical vehicle for this toxin</li> </ul> </li> </ul>

➤ Resources – <https://wwwnc.cdc.gov/travel/yellowbook/2018/the-pre-travel-consultation/food-poisoning-from-marine-toxins>

➤ Resources - <https://www.cmaj.ca/content/184/6/674.long>